

New biomarkers discovered for pancreatic cancer and mesothelioma

September 28 2010

Using a novel aptamer-based proteomics array technology, researchers and collaborators have identified biomarkers and protein signatures that are hallmarks of cancer at an early stage for two of the most aggressive and deadly forms of cancer — pancreatic and mesothelioma.

This technology would enable better clinical diagnosis at an earlier stage and may provide insight into new therapeutic targets, said Rachel Ostroff, Ph.D., clinical research director of Somalogic Inc.

"Currently these cancers are detected at an advanced stage, where the possibility of cure is minimal," said Ostroff. "Detection of these aggressive cancers at an earlier stage would identify patients for early treatment, which may improve their survival and quality of life."

Ostroff presented results of this ongoing study at the Fourth AACR International Conference on [Molecular Diagnostics in Cancer](#) Therapeutic Development.

Discovered about 20 years ago, aptamers are nucleic acid molecules that bind to specific proteins. SomaLogic has developed the next generation of aptamers, SOMAmers (Slow Off-rate Modified Aptamers), which have superior affinity and specificity. SOMAmers enable a highly multiplexed proteomic platform used for simultaneous identification and quantification of target proteins in complex biological samples.

The goal of this study was to determine if this proteomics technology

could identify blood-based [biomarkers](#) for pancreatic cancer or mesothelioma in people diagnosed, but not yet treated, for cancer.

Participants in the control group had symptoms that resembled these cancers, but were benign (i.e. pancreatitis or [lung fibrosis](#)).

Ostroff and colleagues tested blood from participants to discover the biomarkers specific to those with cancer, which would then be used to identify these diseases at an early stage, where the potential for effective treatment is much higher than in disease that has progressed.

For both forms of cancer, the researchers discovered biomarkers and developed a signature with high accuracy for detection of each form of cancer. Equally important, they found high specificity, meaning few people without disease will be incorrectly diagnosed and thus avoid unnecessary tests or treatments.

"Validation studies are underway, which we hope will lead to the development of diagnostic tests that hold clinical benefits for patients," Ostroff said.

Pancreatic cancer is the fourth leading cause of cancer-related death in the United States. Mesothelioma is an asbestos-related pulmonary cancer that causes an estimated 15,000 to 20,000 deaths per year worldwide.

Provided by American Association for Cancer Research

Citation: New biomarkers discovered for pancreatic cancer and mesothelioma (2010, September 28) retrieved 6 May 2024 from <https://medicalxpress.com/news/2010-09-biomarkers-pancreatic-cancer-mesothelioma.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private

study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.